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16 Aug 1995

From: Commanding Officer, Engineering Field Activity, West, Naval Facilities
Engineering Command
To: Distribution

Subj: DOCUMENT SUMMARY FOR PILOT-SCALE TREATABILITY WORK PLAN,
INSTALLATION RESTORATION (IR) SITE 13, NAVAL AIR STATION (NAS),
ALAMEDA, CALIFORNIA

Encl: (1) Document Summary for Pilot-Scale Treatability Work Plan dated June 30, 1995

1. Enclosure (1) is a Document Summary and is submitted for your information. The Document Summary is an abstract that provides a brief description and highlights of the Pilot-Scale Treatability Work Plan for IR Site 13, NAS Alameda.

2. The draft Pilot-Scale Treatability Work Plan was submitted for review to the regulatory agencies in early August 1995. The RAB Co-chair and Leaders of the Early Actions and Technology Focus Groups will also receive a copy of the work plan. The work plan is provided for information and does not require review or comment from the RAB; however, if after reviewing the Document Summary, you would like a copy of the work plan, please make your request directly to me. I can be reached at (415) 244-2539 or FAX (415) 244-2654.

3. If you have any questions regarding this matter, please give me a call.

Original signed by:

KEN SPIELMAN

By direction

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Subj: DOCUMENT SUMMARY FOR PILOT-SCALE TREATABILITY WORK
PLAN, INSTALLATION RESTORATION (IR) SITE 13, NAVAL AIR
STATION (NAS), ALAMEDA, CALIFORNIA

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U.S. Environmental Protection Agency (Attn: James Ricks)
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PILOT-SCALE TREATABILITY WORK PLAN

DOCUMENT SUMMARY

Document Type: Work Plan

Date: June 30, 1995

Version: Draft

Summary: The work plan is written to specify the design, implementation, and operation of a pilot-scale treatability study of Steam Enhanced Extraction (SEE) at IR Site 13 at NAS Alameda. The treatability study is conducted to provide sufficient information for the evaluation of the SEE technology at Site 13. Evaluation of the technology will support the decision-making process of the feasibility study in the recommendation of full-scale remedial actions.

Site 13, approximately 30 acres, is the former location of the Pacific Coast Oil Works refinery. Refinery wastes were routinely dumped on the site and are currently found in high concentrations below the four-foot deep water table. A preferable alternative to excavating the soil for treatment is to extract the waste oil and leave the soil in place. *In-situ* treatment requires a technology that increases volatility and mobility of the tar-like waste oils.

The SEE process involves introducing steam into the soil through injection wells to enhance the movement of the solidified waste oil. Groundwater and the oil, made more mobile at the higher temperatures, are pumped from the ground. Air, steam and oil vapors are extracted from recovery wells through the application of a vacuum. Treatment of the recovered liquids and vapors occurs on site followed by proper disposal or recycling.

The pilot-scale treatability study will consist of laboratory treatability tests, a 3-well treatability test and a 15-well pilot-scale test. The laboratory treatability tests will indicate the effectiveness of steam in the removal of the contaminants from the soil. If laboratory results are favorable, a decision will be made to enter the next phase of testing. The 3-well treatability test (see attached Figure 8.2 from the work plan) will operate over a period of 30 days and provide preliminary data on the subsurface permeability and prototype well design performance. The 15-well pilot-scale test will then run for 180 days or until oil recovery rates decrease to low levels. At the conclusion of each test or phase, a report will be prepared that will analyze the results and present recommendations for the next phase. The decision to proceed to the next phase will be based on an evaluation of the effectiveness of the SEE process at Site 13 by the BRAC Closure Team (BCT) and the Navy.

The work plan was prepared using guidance provided by the California Department of Toxic Substances Control (DTSC) and U.S. Environmental Protection Agency (EPA). The work plan will be reviewed and commented on by the DTSC and EPA.